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ABSTRACT

A shared resources service processor facilitates messaging between line processors and provides a single point of contact for a user interfacing with line processor(s), for example in a storage system interface. Shared memory is divided into "mailboxes" that are used to communicate between the line processors and the service processor. The service processor issues a system management interrupt to any or all of the line processors. This interrupt indicates to the line processor(s) that it should go out to the shared memory and read its respective mailbox. In operation, the service processor can deliver a message, i.e. command, to a line processor's mailbox, for example to tell a line processor to go off-line or on-line. The service processor will write the command into the mailbox and then assert the system management interrupt on the appropriate line processor that it wants to read the mailbox. The line processor receiving the interrupt will take the interrupt vector, read the mailbox, interpret the command and deliver the appropriate response to the mailbox. The line processor(s) conserves backplane bandwidth by selectively consolidating selected tasks onto the service processor to reduce the number of accesses to the backplane.